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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,379	09/08/2003	Chuan-Cheng Tu	U68.312-0001	9434
164	7590	01/30/2006	EXAMINER	
KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002			PHAM, LONG	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/657,379	TU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Long Pham	2814	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 41, 43-45 and 47-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 41, 43-45, and 47-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### **Rejections and/or objections necessitated by the amendments**

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 as currently amended and 2-9 as previously presented, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (US patent 6,583,442) in combination with Shima et al. (US patent 4,532,631) and Sugimoto et al. (JP 04061184).

With respect to claims 1-9, Ito in combination with Shima et al. and Sugimoto et al. teach the invention as claimed. See the contents of the office action dated 08/23/05.

Further with respect to currently amended claim 1, Shima et al. further teach a stacked structure composes of at least one of the active layer and the semiconductor layer of the second polarity. Further, how the wave-shape border is formed has not been given patentability weight since the claimed invention is directed to a device.

Claims 41, 43, 44, 45, 47, 48, 49, and 50 as currently amended and 51 as previously presented, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (US patent 6,583,442) in combination with Shima et al. (US patent 4,532,631) and Sugimoto et al. (JP 04061184).

With respect to claims 41, 43, 44, 45, 47, 48, 49, 50, and 51, Ito in combination with Shima et al. and Sugimoto et al. teach the invention as claimed. See the contents of the office action dated 08/23/05.

Further with respect to currently amended claim 41, Shima et al. further teach a stacked structure composes of at least one of the active layer and the semiconductor layer of the second polarity. Further, how the uneven surface is formed has not been given patentability weight since the claimed invention is directed to a device.

Further with respect to currently amended claim 43, See the rejection of claim 42 in office action dated 08/23/05.

Further with respect to currently amended claim 44, See the rejection of claim 43 in office action dated 08/23/05.

With respect to currently amended claim 45, See the rejection of claim 44 in office action dated 08/23/05.

Further with respect to currently amended claims 47 and 48, See the rejection of claims 46 and 47 in office action dated 08/23/05.

Further with respect to currently amended claim 49, See the rejection of claim 48 in office action dated 08/23/05.

Further with respect to currently amended claim 50, See the rejection of claim 49 in office action dated 08/23/05.

Further with respect to currently amended claim 51, See the rejection of claim 50 in office action dated 08/23/05.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-9, 41, 43-45, and 47-51 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See

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MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on Mon-Frid, 10am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Long Pham

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Primary Examiner  
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LP